## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/004331

| A. CLASSIFIC<br>Int.Cl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | CATION OF SUBJECT MATTER  C07K16/18, A61K39/395, A61P3 C12N15/00                                                                                      | 35/00, 43/00//C12P21/08,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| According to International Patent Classification (IPC) or to both national classification and IPC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |
| B. FIELDS SEARCHED .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | mentation searched (classification system followed by c  C07K16/18, A61K39/395, A61P3                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | searched other than minimum documentation to the ext                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | base consulted during the international search (name of ALOG), BIOSIS (DIALOG)                                                                        | data base and, where practicable, search to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | erms used)               |
| C. DOCUMEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | NTS CONSIDERED TO BE RELEVANT                                                                                                                         | ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <del></del>              |
| Category*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Citation of document, with indication, where a                                                                                                        | •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Relevant to claim No.    |
| X<br>A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Liang R. et al., "Human Inter<br>Cotransporter.", J.Biol.Chem<br>No.12, pages 6456 to 6463                                                            | sinal H'/Peptide<br>., 1995, Vol.270,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1-4,8-10<br>.5-7,11-15   |
| X<br>A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Liu W. et al., "Molecular clo<br>a new member of the H <sup>†</sup> /peptic<br>family, from human kidney.",<br>Biochim.Biophys.Acta., 1995,<br>to 466 | de cotransporter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1,2,4,8,9<br>3,5-7,10-15 |
| P,A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | WO 03/033024 A1 (Chugai Phar<br>Ltd.),<br>24 April, 2003 (24.04.03),<br>(Family: none)                                                                | maceutical Co.,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1–15                     |
| Further do                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | curnents are listed in the continuation of Box C.                                                                                                     | See patent family annex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |
| * Special categories of cited documents:  document defining the general state of the art which is not considered to be of particular relevance  "E" earlier application or patent but published on or after the international filing date  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date claimed |                                                                                                                                                       | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone.  "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  "&" document member of the same patent family |                          |
| Date of the actual completion of the international search 09 June, 2004 (09.06.04)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                       | Date of mailing of the international search report 22 June, 2004 (22.06.04)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                          |
| Name and mailing address of the ISA/ Japanese Patent Office Facsimile No:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                       | Authorized officer  Telephone No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |
| Form PCT/ISA/210 (second sheet) (January 2004)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |

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| Box No. I                                                                                                                                                                                                                          | Nucleotide and/or amino acid sequence(s) (Continuation of item1.b of the first sheet)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <ol> <li>With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:</li> </ol>          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
| a. type                                                                                                                                                                                                                            | of material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
| ×                                                                                                                                                                                                                                  | a sequence listing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |
|                                                                                                                                                                                                                                    | table(s) related to the sequence listing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| b. forn                                                                                                                                                                                                                            | nat of material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
|                                                                                                                                                                                                                                    | in written format                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |
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| c. time                                                                                                                                                                                                                            | of filing/furnishing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |
|                                                                                                                                                                                                                                    | contained in the international application as filed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
| ×                                                                                                                                                                                                                                  | filed together with the international application in computer readable form                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
|                                                                                                                                                                                                                                    | furnished subsequently to this Authority for the purposes of search                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
| 2. 🗙 In a                                                                                                                                                                                                                          | ddition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |
| or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |
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| 3. Additions                                                                                                                                                                                                                       | d comments:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |
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